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The development of compassionate engagement and action scales for self and others

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Abstract

Background: Studies of the value of compassion on physical and mental health and social relationships have proliferated in the last 25 years. Although, there are several conceptualisations and measures of compassion, this study develops three new measures of compassion competencies derived from an evolutionary, motivational approach. The scales assess *1. the compassion we experience for others*, *2. the compassion we experience from others*, *and 3. self-compassion* based on a standard definition of compassion as a 'sensitivity to suffering in self and others with a commitment to try to alleviate and prevent it'. We explored these in relationship to other compassion scales, self-criticism, depression, anxiety, stress and well-being.

Methods: Participants from three different countries (UK, Portugal and USA) completed a range of scales including compassion for others, self-compassion, self-criticism, shame, depression, anxiety and stress with the newly developed 'The Compassionate Engagement and Actions' scale.

Results: All three scales have good validity. Interestingly, we found that the three orientations of compassion are only moderately correlated to one another ($r < .5$). We also found that some elements of self-compassion (e.g., being sensitive to, and moved by one's suffering) have a complex relationship with other attributes of compassion (e.g., empathy), and with depression, anxiety and stress.
A path-analysis showed that self-compassion is a significant mediator of the association between self-reassurance and well-being, while self-criticism has a direct effect on depressive symptoms, not mediated by self-compassion.

Discussion: Compassion evolved from caring motivation and in humans is associated with a range of different socially intelligent competencies. Understanding how these competencies can be inhibited and facilitated is an important research endeavour. These new scales were designed to assess these competencies.

Conclusions: This is the first study to measure the three orientations of compassion derived from an evolutionary model of caring motivation with specified competencies. Our three new measures of compassion further indicate important complex relationships between different potentiation's of compassion, well-being, and vulnerability to psychopathologies.

Background

This research set out to develop three new measures of compassion competencies derived from an evolutionary motivational and competencies approach to compassion. Given that we can both give and receive compassion, these scales assess competencies relating to *1. compassion we experience for others*, *2. the compassion we experience from others and 3. self-compassion*. Our approach is based on a standard definition of compassion as a 'sensitivity to suffering in self and others with a commitment to try to alleviate and prevent it' [21, 46, 64, 104]. The impetus for this research was inspired by a wealth of research showing e that developing caring and compassion-focused motives for self and others has a range of benefits: on genetic expression [14, 31, 109], physiological processes [9, 68, 71, 73, 107, 108], psychological processes [63, 64, 66, 108], and social relationships [16, 18, 100]. Cultivating compassion for self and others has also become a central focus for the development of psychotherapies [35, 37, 40, 61, 67, 69, 77, 96].

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Approaches to compassion

The concept of compassion is thousands of years old, rooted in many spiritual and moral philosophical traditions. However, there remain some controversies over its definition and nature [44, 45]. Compassion is core to Christian traditions, reflected in stories of self-sacrifice, courage and the good Samaritan [33]. Central to Buddhist traditions is the concept of Bodhichitta, which involves 'the heart felt wish for all sentient beings to be free of suffering and the causes of suffering—including oneself' [21, 64, 104]. European philosophers too, such as Arthur Schopenhauer (1788-1860), regarded compassion as one of humans' central motives.

Although the word *compassion* comes from the Latin word *compati* meaning 'to suffer with, a standard dictionary defines compassion as "a feeling of deep sympathy and sorrow for another who is stricken by misfortune, accompanied by a strong desire to alleviate the suffering" (e.g., http://dictionary.reference.com/browse/compassion). Today there are a number of different definitions of compassion rooted in caring *motives* that require a range of competencies for its enactment. Examples, of these include, noticing and paying attention to distress, sympathy, empathy, generosity, openness, distress tolerance, commitment, and courage, amongst others [21, 30, 36, 38, 39, 46, 54, 104]. Buddhist scholar Geshe Thupten Jinpa, who developed the Stanford *compassion cultivation training*, defined compassion as "a multidimensional process comprised of four key components: (1) an awareness of suffering (cognitive/empathic awareness), (2) sympathetic concern related to being emotionally moved by suffering (affective component), (3) a wish to see the relief of that suffering (intention), and (4) a responsiveness or readiness to help relieve that suffering (motivational) [63]. Dutton et al. [27] who have done considerable work on compassion in organisations, relate compassion to four core aspects that also touch on cognitive, affective and behavioural processes: 1) noticing/attending to another's suffering, 2) sense-making or meaning making related to suffering; 3) feelings that resemble empathic concern, and 4) actions aimed at easing the suffering.

In a recent major review Strauss, et al. [111] suggests the following

> "….we propose a new definition of compassion as a cognitive, affective, and behavioral process consisting of the following five elements that refer to both self- and other-compassion: 1) Recognizing suffering; 2) Understanding the universality of suffering in human experience; 3) Feeling empathy for the person suffering and connecting with the distress (emotional resonance); 4) Tolerating uncomfortable feelings aroused in response to the suffering person (e.g. distress, anger, fear) so remaining open to and accepting of the person suffering; and 5) Motivation to act/acting to alleviate suffering."

Compassion as Motivation

Our approach is focused on exploring the evolved caring *motivational* processing of compassion and identification of the competencies needed for compassion [36, 41, 45, 85]. Compassion Focused Therapy is a psychotherapy focused approach requiring identification of key competencies and attributes that then become the focus for therapy, intervention and training [40].

All motives (be it food seeking, sexuality, status seeking, attachment or caring) have two different dimensions [36, 41, 45]. One is stimulus detection such that animals evolve specific stimulus detectors and when a particular stimulus exists in the environment it ignites physiological cascades within the organism. For example, sexual and food stimuli are species specific and variant. Second, there has to be a behavioural repertoire to fulfil the aims of the motive. So, for example, reproduction requires arousal to particular sexual cues that must then be linked to behavioural displays and sequences of behaviours which unfold ending up in the copulatory acts. Incompetence in these behaviours ends in reproductive failure. This motivation focus of 'stimulus sensitivity and with the appropriate behavioural repertories' underpins our approach to compassion. This twin focused approach of 1. motivated to engage, and 2. motivated to learn to act wisely is also highly consistent with the Buddhist approaches to compassion [64].

So, as noted we define compassion that is consistent with various dictionary definitions and Buddhist conceptualizations [21, 64], as 1. a "sensitivity to suffering in self and others 2. with a commitment to try to alleviate and prevent it" [39, 46] thus conveying the two distinct functional psychological processes: motivated attention/engagement and motivated action. So, the first component is linked to the motivation and competencies to engage with suffering with attentional sensitivity to distress signals. The second involves acquiring the wisdom and skills to act to alleviate and prevent suffering in self and others.

Importantly, attention and response to *distress signals* in another, probably first evolved as a threat signal, producing flight from the one signalling distress. Distress calls could indicate a predator, disease or other danger, and many animals will avoid conspecifics who appear distressed, diseased or injured [99]. Indeed, there are many conditions where humans too will avoid those who are signalling distress, rather than help them [79].

The evolution of 'sensitivity to distress/suffering' *that produces approach* and helping behaviour can be traced back many millions of years as a reproductive strategy.

For example, some species of crocodile can hear the calls of their hatchlings and return to the nest to carry them in their jaws to the water. With the evolution of mammals, caring evolved into a complex array of competencies, including the ability to detect and respond to distress calls in the infant, providing provisions such as food and comfort, and a secure base in which to grow, develop, mature and flourish [6, 36, 86, 87]. To put this another way, compassion is also sensitive *to needs*, because if needs are not met (e.g., for comfort, protection and food) suffering soon follows. The evolved value of caring for others had many potential advantages, including infant survival, survival of helpful relatives, indicating self as a desirable friend, as a sexual attractor and for cooperation [9, 54]. By the arrival of *homo sapiens*, evolution had given rise to a range of socially intelligent competencies that are important for both engagement and taking action to address and prevent suffering in self and others [38, 45]. It is these comptoentiencies 'knowing awareness', that turns caring into compassion. These two psychologies can be represented as two interdependent and interacting sets of competencies, given in Fig. 1 and explained in more detail below.

First psychology—the competencies of compassionate *engagement*

From the perspective of the definition above, the first psychology of compassion requires competencies that enable stimulus detection of distress/suffering for the effective engagement with distress/suffering. First is motivation that directs attention. Obviously, if one is not motivated in the first place, and has no intention of addressing suffering (e.g., maybe because of fears of compassion [41, 49]) that is important to address. In fact, there can be many resistances to forming intentions to be helpful to self and others particularly if we see others as competitors, or, enemies [79]. In relation to aspects of our selves we feel ashamed of, self-compassion, can be difficult or resisted [38, 48]. Indeed, working on the fears, block and resistances to compassion is central to CFT [40, 115] and other therapies [114]. Once intentionality develops, then attention can be attuned to distress/suffering signals (distress sensitivity). Awareness and paying attention enables an emotional connectedness or emotional resonance to suffering. This is sometimes called *sympathy*. Eisenberg et al. [28] define sympathy as "feeling sorrow or concern for a distressed or needy other on the basis of the comprehension of another's state or information on another's state or condition. Unlike empathy, it does not consist of feeling the same emotion (or a highly similar emotion) that the other person is experiencing or is expected to experience." (p. 7). Its main characteristic is that we are *emotionally moved* by signals of distress rather than indifferent or dissociated. They also point out that sympathy alone, without motivation (intention), may not result in helping behaviour; indeed, one might be so distressed that one engages in avoidance behaviour such as running away, redirecting one's attention or going into denial or dissociation.

Another central competency is tolerance of the *distress* that can arise from sympathy and/or the emotions of going to help (e.g., fear) [39, 41]. Individuals who are (too) frightened or overwhelmed by their own or others distress, may engage in avoidance or dissociation [28, 79]. Hence, there are many therapeutic interventions which focus on building distress tolerance [35, 78]. Empathy is also obviously a core competency of compassion, coming from the Greek *empatheria* meaning 'to feel into' or 'to enter into the experience of another'. It does not

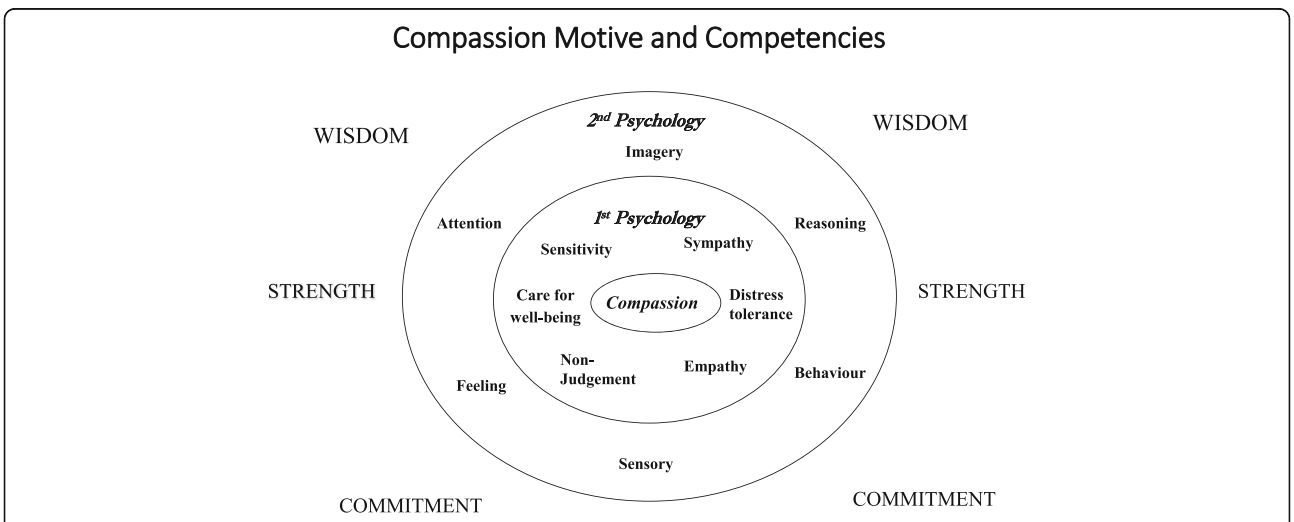

Fig. 1 The two psychologies of compassion. Adapted From Gilbert [39]. The Compassionate Mind. With kind permission Constable Robinson

imply suffering particularly nor motivation particularly but a competency for 'mind-reading' [121]. When there is a focus on suffering or distress it is often called 'empathic concern;' one can have concern without empathy and empathy without concern [22, 121].

Competencies for *empathy* are multi-layered, both phylogenetically and ontogenetically [5]. During maturation, this competency goes through a series of developmental stages. At its basic level, it involves emotional contagion and capacity for feeling attuned with the emotion of the other [5, 22, 40]. For example, if one baby in the nursery cries the other babies begin to cry. Over time as children mature they become able to distinguish self from other, and recognise 'other' is different from self, and that the distress that they are feeling may not be their distress but on behalf of the other [4]. A set of competencies that greatly expanded the potential for empathy are the more recently evolved competencies of mentalising, theory of mind and intersubjectivity. Empathy and compassion can be confused, especially with concepts like empathetic 'concern' because concern is a motivational and emotional descriptor linked to caring. In addition, caring motives, and competencies like empathy, have different evolutionary histories and function in different ways [99, 121]. These competencies tend to be referred to as cognitive empathy or perspective taking [22, 23]. Shamay-Tsoory et al. [106] separated the competencies for emotional empathy and cognitive empathy (perspective taking), showing they are distinct and depend on separate anatomical substrates. Emotional empathy is linked to the inferior frontal gyrus while the more recently evolved cognitive empathy is linked to the ventromedial prefrontal cortex. Importantly empathy by itself does not necessarily lead to compassionate engagement or action (helping) and can even lead to unhelpful behaviours [79]; indeed, we can use our perspective taking and awareness of 'what others are feeling' for very self-focused even malevolent ends. Thus, motivation becomes crucial to how (the competency of) empathy is used [121]. For example, Zaki noted that the degree to which people are prepared to attune to the emotions of others is very much dependent on the *motivations underpinning their relationship*. Gilin et al. [53] found that cognitive empathy but less so emotional empathy was useful in competitive situations. In contrast, problems in empathetic competencies could make it difficult to connect to the distress of others or have insight into what would be helpful, even if one was motivated and wanted to be helpful. To a large extent, empathy for others requires us to have empathy for ourselves and forms of self-awareness [23].

Compassion also requires a non-condemning (non-judgemental), open approach to distress and suffering [21]. This does not mean non-preference since the whole point of acting compassionately is to alleviate and prevent suffering rather than just passively accept it. So here, non-judgement refers to the ability for acceptance and tolerating in order to take wise action. Taken together then, the first psychology of compassion is the ability to approach and engage as opposed to avoid distress/suffering and has a number of mutually-interdependent competencies. Importantly too, they build on each other. So, for example, the more we are able to tolerate distress, the greater the likelihood we can explore the causes and conditions that maintain it. With empathic understanding can come an increased ability to be sensitive and tolerant. On the other hand, some individuals may be motivated to be caring, but not very empathic or lack distress tolerance and become overwhelmed. Others may be empathic, but lack caring motivation, as in the case of some people with psychopathic difficulties. Yet others may have all of those competencies, but lack the courage to act [42].

In summary then our measure explores the following competencies 1. motivation to engage with suffering, 2. attention sensitivity, 3.being emotionally moved (sympathy), 4. being able to tolerate distress, 5. being able to reflect (cognitive empathy and perspective taking) and 6. be non-judgemental.

Second psychology—the competencies of compassionate action

The second psychology of compassion involves competencies for the effective turning of attention, reasoning, and behaviours to the alleviation and prevention of suffering. These actions may be immediate, addressing suffering in the here and now, or maybe more distal. For example, one can spend a lot of time learning how to be a doctor—driven by the desire to be a healer in the future, even when signals of distress are not immediately present one is still studying. Although being compassionate sometimes requires us to be soothing, listening, accepting, being with and validating ourselves or others, at other times it may require courageous actions. In saving a child from a burning house, we would not be in a state of 'calm kindness', but possibly one of controlled panic with an 'urgency to act'. Compassionately addressing our depressions may require us to (courageously) take difficult actions such as leaving an abusive relationship. In addition, we recognise that to *prevent suffering* in the future, we may need to commit to developing complex coping skills. So, for example, gaining wisdom and insight into the causes of ill-health may lead us to make efforts to eat a healthy diet and take regular exercise. Depressed people may need to learn to be more assertive or less dissociated from painful emotions or life challenges, and engage in antidepressant behaviours. Acquiring these competencies would be a form of self-

compassion to prevent suffering. When we help, other people do the same thing, we are facilitating the prevention of suffering in and to them. Sometimes this means assessing and trying to fulfil their needs to enable them to flourish including moral behaviour and supporting their integrity and rights [46].

So, these qualities of the second psychology of compassion include learning to pay *attention* to the things that are helpful, and likely to alleviate and prevent suffering. Using *imagery* to run simulations in one's mind of what would be helpful; or using imagery practices to cultivate compassion [64, 104, 108]. Thinking, reflection and *reasoning*, when blended with empathy are a foundation for wisdom [35]. Actions maybe calming or 'aroused and active.' *Behaviour* to address suffering may involve courage in a multitude of ways. Working with-*sensory* body-based experiences can be important for compassion and compassion can involve a whole range of *feelings and emotions*. Sometimes anger at injustice may trigger a compassionate focus, anxiety (as in the case of saving someone in danger), or a calm focus (as in the surgeon carrying out a delicate procedure).

Summary: for our scale, we did not ask about imagery or sensory experience as these could be too vague. Hence, our items focused on domains of helpful 1. attending, 2. thinking/reasoning, 3. behaving and 4. emotion/feeling.

The Three Orientations of Compassion

There are three orientations and directional flows of compassion that utilise the above competencies. There is the compassion we feel *for* other people, there is our experience of compassion *from* other people, and there is *self*-compassion. Hence, we sought to develop versions for each orientation utilising the same competencies of caring/compassion. This will enable researchers to explore the interactions between giving and receiving compassion and their different links with other processes and personal histories [52, 87]. Second, there is wide variation in the ways these different flows of compassion are manifested in individuals especially, those with emotional difficulties (for example, an individual who has been abused may have compassion for others, but may be filled with self-loathing and an inability to receive compassion from others that hinders her/his healing [114, 115]). Indeed, there is growing evidence that each of these directions of 'compassion flow' have psychological and physiological effects and influence each other [58].

Compassion for others

Being compassionate *to others* is generally regarded as the most basic focus for compassion [21, 64, 104, 108]. It underpins some forms of morality [91]. When helping others includes a cost to oneself, it is sometimes referred to as altruism [103]. As in diagram 1, compassion for others requires a motivation to be helpful, capable of noticing and orienting to distress signals (indicators of suffering), capable of tolerating any distress feelings that arise, and capable of non-judgemental empathic connection with the suffering of others. In addition, of course, is the second psychology, which is a preparedness to do something (wisely) to try to alleviate and prevent suffering (be it consoling, validating or some action). There is growing evidence that practicing and cultivating compassion for others has a range of psychophysical and health benefits, [64, 66, 104, 108]. A measure that touches on some of these aspects is the Compassionate Love Scale developed by Sprecher and Fehr [110]. There are two versions of this scale, one focused on family and friends and the other on strangers. Note though that when used in a Buddhist context the word 'love' has a very precise meaning and definition that is different to many Western concepts [104]. It is about 'wishing all beings to be free suffering and find happiness'. 'Love' in the west usually implies liking, wanting to be close to, and enjoy. However, the more powerful forms of compassion are for the people we *may not like* and certainly do not love. It is similar for ourselves; compassion for the things that we dislike in us may be more difficult than the things we accept. So, love (in a lay-western context) is a different construct to compassion [39, 79].

A different approach to measuring compassion for others was developed by Crocker and Canevello [17, 18] which focuses on the desires to be helpful. They asked students to rate the degree to which they engaged in "compassionate" goals such as wanting to be helpful to people and being sensitive to their needs. They contrasted these motives with "self-image" goals, such as wanting to get people to see you're right and avoiding showing mistakes. These two motivations were clearly related to different social and mental health outcomes. Compassionate goals were linked to feeling connected, low conflict, and better mental health than were self-image goals. Self-image goals tended to be negatively related to these outcomes. Indeed, the more self-focused, competitive and shame focused people are the more prone to depression they maybe [19].

Compassion from others

This orientation refers to our experience of compassion from people around us, whether we feel they are supportive and have compassion competencies. The quality of caring we receive early in life has a major impact on our capacities for mental well-being and prosocial behaviour [52, 87, 91]. In the social support literature there is now extensive evidence that the availability of compassionate social support has a major impact on

resilience to distress and a range of physical and mental health indices [55]. Having access to caring and compassionate relationships buffers against the impact of negative life events on depression, and improves recovery trajectories, post-treatment functioning and relapse prevention (e.g., [8, 34]). In a recent study of 632 students, Wang et al. [116] found that social support significantly moderated the effect of stress on depression. Studies of compassion can therefore assess the degree to which individuals feel themselves contextualised in supportive environments where people have compassionate competencies. However, while there are social support scales (subject of another study) that focus on the availability of practical and emotional support given [20, 116] to the best of our knowledge, there is no current self-report scale that explores peoples' experience of the compassion intentions and competencies directed towards them.[1]

As an aside it is interesting to note that there is also good evidence that people turn to religion to feel supported and cared for by compassionate others including "a loving God" [70].

In contrast, a lack of social support and in particular lack of an intimate, caring relationship is well known to be an vulnerability factor for depression and other mental health problems [7, 57]. Furthermore, high expressed emotion relationships involving high emotion, intrusiveness and criticism is strongly linked to mental health problems [118].

The flows of compassion are related. For example, Hermanto and Zuroff [58] showed how the different orientations of compassion are related. High caregiving along with the ability to receive care predicted self-compassion, whereas high care-giving with *low* care seeking (being less open and receptive to compassion) predicted poor self-compassion. This fits with Bowlby's notions of compulsive caregiving [86] and also that caregiving can be defensive and submissive [11]. Gilbert et al. [51] also found that fears of receiving compassion were strongly associated with fears and resistances to being self-compassionate, but much less so to being compassionate to others. Hermanto, et al. [59] also found that being open to the compassion from others buffers the effect of self-criticism on depression. Such data highlights the fact that to understand how compassion manifests in the world, we need to focus on both competencies for giving *but also receiving*; compassion as a social mentality.

Self-compassion

Reaching back to before even Freud [32] there is considerable evidence that having a hostile, contemptuous and critical approach to oneself, in contrast to a supportive and compassionate one, is highly associated with vulnerabilities to a range of mental health problems, particularly depression [46, 65, 81, 95]. Importantly it is the emotions associated with the self-criticism as much of the content, that drives the mental health difficulties [119]. Indeed, self-criticism can be distinguished both in terms of forms and functions with some forms being linked to desires for self-improvement whereas others are linked to self-hatred [47].

One way to think of self-compassion is as an alternative to self-criticism and general negative self-evaluation. Neff [92–95], has pioneered the study of this type of approach to self-compassion, and developed self-help interventions for nonclinical populations [96]. Neff suggests:

> "Self-compassion, therefore, involves being touched by and open to one's own suffering, not avoiding or disconnecting from it, generating the desire to alleviate one's suffering and to heal oneself with kindness. Self-compassion also involves offering nonjudgmental understanding to one's pain, inadequacies and failures, so that one's experience is seen as part of the larger human experience" (p.87)..

From this definition Neff [92, 93] developed the widely-used Self-Compassion Scale (SCS). using bipolar constructs: kindness vs self-judgement; mindfulness vs self-absorption/over identification, and common humanity vs isolation. Low scores, indicating low self-compassion, are highly correlated with experiences of paranoia, shame and self-criticism [88]; post traumatic stress disorder [60]; depression [95] and mental health problems in general [15, 83, 97].

There is controversy over these constructs and their measurement particularly the combining of negative and positive items as a single measure and construct [15, 74, 81, 90, 101, 120]. Indeed, one can be high on both or low on both and get the same score. The scale is readily available at www.self-compassion.org Neff discusses these issues in recent reviews ([95, 98]. In addition, she recognises the problem herself suggesting that

> It may be the case, in fact, that the main way that self-compassion enhances positive well-being is via the increased self-kindness, common humanity, and mindfulness associated with a compassionate mind state, and that the main way it reduces psychopathology is via decreased self-judgment, isolation, and over-identification [95].

A study that supports this is Körner et al. [74] who explored the contributions of the positive and negative factors of the SCS in 2404 people taken from the general population. They found that most of the variance on depression was accounted for by the negative SCS factors.

In a study of cancer patients and chronic health conditions, Pinto-Gouveia et al. [102] found that in patients with chronic illnesses, self-critical judgement emerged as the best predictor of depressive and stress symptoms, and quality of life dimensions. However, in patients with cancer, it was the affiliate dimensions of self-compassion that significantly predicted lower levels of depressive and stress symptoms, and increased quality of life. In a qualitative study, Waite, et al. [115] found that, in recovery from psychosis, self-criticism and self-compassion were linked to two different cycles of outcome. Self-criticism was associated with increasing distress over psychotic experiences, whereas self-compassion was associated with empowerment and growth. Studies of positive and negative affect [117] and studies of 'flourishing' [76] have also indicated that positive affect and well-being, in contrast to negative affect and psychopathology need to be studied separately and that flourishing is not just the absence of pathology.

Another different measure is one of *state* self-compassion [29] which uses a scenario-based approach. Participants rate the extent to which they would react compassionately or critically to five scenarios, such as "You arrive home to find that you have left your keys at work." Participants were asked to rate how reassuring, soothing, contemptuous, compassionate, critical and harsh they would be to themselves. The factor analysis revealed two clear factors: compassionate and critical.

Other dimensions that can be studied in relationship to self-compassion are people's tendencies to be critical in contrast to being self-*reassuring* when things go wrong for them. [47]. Self-criticism and self-reassurance represent two distinct but correlated processes (with self-criticism splitting into feelings of inadequacy and being motivated to improve and avoid making mistakes which are different from self-hating and wanting to be 'rid of' or dissociate from aspects of the self). The factor structure, distinguishing two types of self-criticism and distinguishing these from self-reassurance, has been replicated a number of times [3, 10, 75].

The attachment histories, and the resultant underlying schematic representations of self and others, that underpin self-reassurance/supportive/affiliative versus harshly/fearfully self-critical dimensions of self-relating are distinct [52, 87]. In an early study of 197 students, Irons et al. [62] explored recall of early parenting of rejection *vs* warmth, in relation to self-criticism and self-reassurance and their impact on depression. There were two unique and separable paths. One from parental rejection to self-criticism and depression and the other from parental warmth, to abilities to be self-reassuring and (lower) depression. There is also evidence that the physiological processes underpinning self-criticism and shame, compared to self-reassuring and caring, are associated with different brain systems [80].

In our development of these measures, we have tried to focus on competencies rather than combine positive and negative processes or judgements which could inflate associations with mental health problems. In addition, we have sort to identify competencies which are relevant for clinical and nonclinical populations.

Aims

Given the above, this study sought to develop and investigate three new measures of compassion 1. Compassion for others; 2. Compassion from others; and 3. Self-compassion, each based on a standard definition and model of compassion's competencies outlined above. Each scale therefore assesses 1. engagement with distress/suffering with exploration of different aspects of compassion (e.g., motivation and becoming sensitive to suffering, distress tolerance with empathic insight and 2. being able to take (wise) actions to prevent and alleviate distress/suffering.

We sought to explore the structure and the validity of the scales in three different countries in two different languages. Furthermore, we aimed to explore the relationship between the three scales with other variables including other attributes of compassion (e.g., empathy), depression and wellbeing, gender differences as well potential predictors and mediators.

Methods

Participants and procedure

Three different populations were recruited for this study. All procedures received approval by the Ethics Committees of the respective universities.

British recruitment

Derby University students were asked to complete a paper questionnaire at the end of lectures or during lecture breaks. All participants read an information pack, gave consent, and filled out the study questionnaire pack. From the 288 students who completed a questionnaire, 10 were identified statistically as outliers in more than one variable and were removed from the dataset ($N = 278$). The final sample consisted of 173 females and 75 males (30 participants had missing gender information) with ages ranging from 18 to 60 years ($M = 26.28$, $SD = 9.81$).

Portuguese recruitment

This sample included 418 Coimbra University college students (ages 18–50; $M = 21.00$, $SD = 2.97$)) and 344 participants from the community (ages 18–65; $M = 36.37$, $SD = 11.74$). The student sample was composed of 360 women and 57 men: the sample from the community included 238 women and 105 men. Two participants did not provide information on gender. Student

participants were volunteers recruited within distinct university departments; the participants from the community were a convenience sample collected from distinct labour sectors (e.g., schools, health services and corporations).

The Portuguese research team translated the scales and the back translations were examined by a bilingual researcher to examine accuracy and fidelity of the original scales. All participants were recruited via online tools (www.qualtrics.com; Qualtrics, Provo, UT, USA; LimeSurvey Project Team, which produced the SPSS data output file downloaded by the experimenters upon the completion of data collection.

USA recruitment

The American population was obtained from Eastern Washington University, a public university in the inland northwest of the United States. Participants were recruited via online participant management software (www.sona-systems.com), which linked interested participants to complete the survey through an online tool (www.qualtrics.com; Qualtrics, Provo, UT, USA), which also produced the SPSS data output file. Students in participating psychology courses were eligible to receive research participation credit in exchange for their participation. From the 343 students who completed the questionnaires, 11 were statistically identified as outliers in more than one variable, and 20 reported incomplete data and were thus removed from the dataset ($N = 312$). The final sample consisted of 227 females and 85 males with ages 18–58 years ($M = 20.82$, $SD = 5.32$).

Scale development and description

In early versions of this scale UK and Portuguese research colleagues tried to generate a number of items for each competency depicted in figure 1. Those proved to have poor psychometric properties and were too long. Derived from this experience we then chose to use only single questions for each competency. The wording for each question was circulated to the research team and other research colleagues for advice. So for the construction of this measure we have used single questions to tap each of the six Engagement processes associated with the first psychology of engagement and four of the Action processes associated with the second psychology. We will now refer to these separately as engagement and action respectively. We created three versions for each scale: compassion for others, compassion from others, and self-compassion; producing a total of six scales (two for each flow).

The Compassionate Engagement and Action Scales

The instructions for each scale defines compassion, and then invites participants to record how they respond when confronted by their own suffering, the suffering of others or the experience compassion from others, using a 10 point Likert point scale of *never—always*.

Engagement

Six items measure compassion engagement (see Tables 1, 2 and 3 for all items). For example, the item for compassion motivation in the compassion for others context is "I am motivated to engage and work with other peoples' distress when it arises." For experiencing other people's motivation to be compassionate to oneself, the item was worded, "Other people are actively motivated to engage and work with my distress when it arises." For self-compassion this item was worded, "I am motivated to engage and work with my distress when it arises".

The scale items covering engagement includes six items, formulated to reflect the six compassion engagement elements (see diagram 1): 1) motivation to care for well-being (examples given in the paragraph above), 2) attention/sensitivity to suffering, 3) sympathy, 4) distress tolerance, 5) empathy, 6) being accepting and non-judgemental. These sections also include two reversed filler items.

Compassionate Action

The second section of the scale is designed to tap into what we call the second psychology of compassion: the ability to pay attention to, learn about and act on what is helpful. In other words, compassion is not simply being able to engage with, tolerate and understand distress/suffering; it's also developing the wisdom and commitment to do something about it. This scale has four items which reflect specific compassionate actions: 1) directing attention to what is helpful, 2) thinking and reasoning about what is likely to be helpful 3) taking helpful actions and 4) creating inner feelings of support, kindness, helpfulness and encouragement to deal with distress. Again each question has three versions according to whether it is focusing on others, how others respond to the self, or self-directed compassion.

In consultation with international experts, we introduced some reversed items in the three scales to avoid response bias and distortion of response from the participants. These items are designed to act as fillers and should not be part of the final analysis. The reverse items (3 and item 7 in the engagement subscale, and item 3 in the actions subscale) do not add to face validity but obscure it [24, 25]. The scale is readily available at http://www.compassionatemind.co.uk/

Other Measures

To test convergent and divergent validity participants also completed the following self-report measures:

Self-Compassion Scale (SCS; [92])

This is a 26-item scale with 6-point Likert scored self-evaluative factors, three positive (Self-Kindness, Common Humanity and Mindfulness), and three negative (Self-Judgement, Isolation and Over-Identification). The sum of all items gives a total self-compassion score. Participants indicate how often they engage in these ways of self-relating on a 5-point Likert scale. The scale has good internal consistency (Cronbach alpha scores ranging from .75 to .81), and test-retest correlations over 3 weeks are high (ranging from .80 to .88). For this study, given the problems associated with reporting a one factor solution, and increasing evidence that it can generate a reliable two factor solution, and the nature of our study,we report on the two factor solution (e.g., [81, 90]).

Compassionate Love Scale [110]

This is a 21-item scale that measures compassionate love *for others*. Respondents rate how true each compassionate statement is to them on a 7-point Likert scale ranging from 1 ("not at all true of me") to 7 ("very true of me"). This scale has been found to have a good Cronbach's alpha value of 0.95. Portuguese participants did not complete this self-report measure.

Friendship Compassionate and Self-Image Goals Scale [17]

This 13-item scale assesses compassionate and self-image goals with two different subscales. All items began with the phrase "In the past week, in the area of friendships, how much did you want to or try to," and are rated on a scale ranging from 1 ("not at all") to 5 ("always"). Both subscales have high internal consistency with a Cronbach's alpha of .83 for the self-image goals and of .90 of for the compassionate goals [17].

Forms of Self Criticising and Self Reassuring Scale (FSCRS; [47])

This 22 item scale measures people's critical and self-reassuring self-evaluative responses to setbacks or disappointments. Participants rate on a 5–point scale (ranging from 0 = not at all like me to 4 = extremely like me) how they might typically think and react when things go wrong for them. The scale measures two forms of self-criticism: Inadequate self, which focuses on a sense of personal inadequacy (e.g. "I am easily disappointed with myself") and Hated self, which measures the desire to hurt or persecute the self (e.g. "I have become so angry with myself that I want to hurt or injure myself"). In addition, the scale measures self-reassuring and supportiveness when things go (e.g. "I am able to care and look after myself"). The scale had Cronbach's alphas of .90 for inadequate self, .86 for hated self and .86 for reassured self [47]. A number of replication studies have supported the reliability ability of the scale (e.g, [3, 10, 75]).

State Self-Criticism & Self-Compassion Scale [29]

This scale asks participants to rate the extent to which they would react compassionately or critically to themselves if a particular scenario were happening at this moment in time, such as "You arrive home to find that you have left your keys at work ". Participants are asked to rate how reassuring, soothing, contemptuous, compassionate, critical and harsh they would be to themselves over five different scenarios. Respondents are asked to rate how true each statement is to them on a 7-point Likert scale ranging from 1 ("not at all") to 7 ("highly"). The factor analysis revealed two clear factors: state self-compassion and state self-criticism. The scale has a Cronbach's alpha's of .87 (self-criticism) and .91 (self-compassion).

Submissive Compassion Scale [11]

People can behave in apparently helpful ways in order to be liked and avoid rejection rather than from being genuinely caring. To measure this dimension, called submissive compassion, we used this 10-item scale, which assesses to what extent one's helping behaviour is related to submissive behaviour. The items are rated in a 5-point Likert scale, ranging from 0 ("Not at all like me") to 4 ("Extremely like me"). The scale had good internal consistency with a Cronbach's alpha of .89.

Depression, Anxiety and Stress Scale (DASS-21; [82])

This 21-item shortened version of the DASS-42 consists of three subscales measuring depression, anxiety and stress. Participants rate how much each statement applied to them over the past week, on a 4-point Likert scale 0–3. (0 = Did not apply to me at all, 3 = Applied to me very much, or most of the time). The DASS-21 subscales have Cronbach's alphas of .94 for Depression, .87 for Anxiety and .91 for Stress [1]. Statements include 'I was aware of dryness of my mouth', 'I tended to over-react to situations' and 'I couldn't seem to experience any positive feeling at all'.

Warwick and Edinburgh Well Being Scale (WEWBS; [113])

This 14-item scale assesses eudemonic and hedonic well-being. Items include cognitive processes (thinking clearly and solving problems), feelings (optimism, confidence and feeling useful) and the quality of relationships with others (feeling loved and feeling close to other people). These are expressed as 14 statements to which people can answer one of five categories ('none of the time' to 'all of the time'). Statements include 'I've been feeling relaxed', 'I've been thinking clearly' and I've been feeling loved'. Participants are asked to answer on a 5-point Likert scale (1 = None of the time, 5 = All of the time). The scale has good internal consistency

(Cronbach's alpha score of 0.89 in a student sample and 0.91 in a population sample). Portuguese participants did not complete this self-report measure.

Data analysis

All analyses were conducted using SPSS version 22. The data were checked for outliers using box plots. The normality of the variables was evaluated by the skewness (sk) and kurtosis's (ku) values. No variable had indicators of severe violations to the normal distribution (SK < | 3 | and Ku < | 10 |; [72]). We conducted exploratory factor analysis (Maximum Likelihood extraction with Direct Oblimin rotation) on the six new compassion sub-scales; two (engagement and actions) for each orientation in the British university sample. Kaiser-Meyer-Olkin in all analysis indicated the sample sizes were adequate for factor analysis.

The structure identified in the exploratory factor analysis for each scale was confirmed through two confirmatory factor analysis (CFA) with Maximum Likelihood as the estimation method, in both the US and Portuguese samples. These analyses were conducted using AMOS 21.0 version (IBM Corp.).

For the Compassion for others and Compassion from others scales, the items were specified to load on two latent-first order factors—Engagement factor and Actions factor—and these were specified to load on a higher order factor of compassion for others and compassion from others, respectively (Figs. 2 and 3).

Turning now to the self-compassion scale, following the previous analyses, a three-order factor was confirmed through a CFA in which the items of the Engagement factor were specified to load on two latent first-order factors: emotional sensitivity to suffering and being moved by one's suffering being one factor, the other four items of the scale forming the second factor. Furthermore, these two factors were specified to load on the Engagement second-order factor. The items of the Actions factor were specified to load on the Actions factor. In turn, the Engagement and Actions factors were specified to load on the Compassion for Self higher order factor (Fig. 4).

The following indices were selected to examine model fit [2, 72, 112]: Normed Chi-Square (χ^2/df), with 2 to 5 indicating good fit; Comparative Fit Index (CFI) and Tucker-Lewis index (CFI), with values above .90 suggesting good fit; Root Mean Square Error of Approximation (RMSEA), with .05 to .08 indicating reasonable error and acceptable fit; and Standardized Root Mean Square Residual (SRMR), with values less than .08 indicating good fit.

A multigroup analysis was conducted to test model invariance between the three samples [12, 13].

The temporal stability of the scale was assessed through intraclass correlation coefficients in a subsample of the Portuguese population. Gender differences were examined through independent samples t tests between in the samples from the three countries. Pearson product-moment correlation coefficients were calculated to explore the relationships between the three orientations of compassion and compassion focused self-evaluative and emotion focused variables. Multiple regression analyses were conducted using the new three compassion scales, self-reassurance and self-compassion to predict well-being and depressive symptoms.

A path analysis was conducted to estimate whether the association between self-reassurance and self-criticism (measured as the combination of the hated self and inadequate self-subscales of FSCRS; exogenous variables) and both depressive symptoms and well-being (endogenous variables), would be mediated by compassion for self (endogenous mediator variable). The model was tested in the participants comprising the three samples. Although self-compassion and self-reassurance are closely related, this analysis was used to explore evidence for the scale's incremental validity over current measures of self-criticism and self-reassurance in the prediction of well-being and depression. The path analysis (Fig. 4) was examined through the software AMOS (Analysis of Momentary Structure, software version 21.0, SPSS Inc. Chicago, IL). The significance of the regression coefficients and the fit statistics were tested using the Maximum Likelihood estimation method. The following goodness-of-fit indices were used to confirm the model adjustment: Chi-square (χ^2), Comparative Fit Index (CFI), Tucker Lewis Index (TLI), and Root-Mean Square Error of Approximation (RMSEA). The significance of the total, direct and indirect effects was assessed by Chi-Square tests and the mediational paths significance was further supported by the Bootstrap resampling method, with 5000 Bootstrap samples and 95% bias-corrected confidence intervals (CI) around the standardized estimates [84].

Results

Analysis 1: Exploratory factor analysis of the three compassion scales

Our first analysis was an exploratory factor analysis (EFA) of our three new compassion scales conducted with the British university population (see Tables 1, 2 and 3). Items and item loadings of all scales are presented in Table 1.

Compassion for others—Engagement

We conducted an exploratory factor analysis (EFA) on the six items of the compassion to others (excluding reversed items)—Engagement scale. The solution produced one factor with eigenvalue above one, explaining 67.03% of the variance. The Cronbach's alpha for this scale was $\alpha = .90$. No item deletion would improve the Cronbach's alpha.

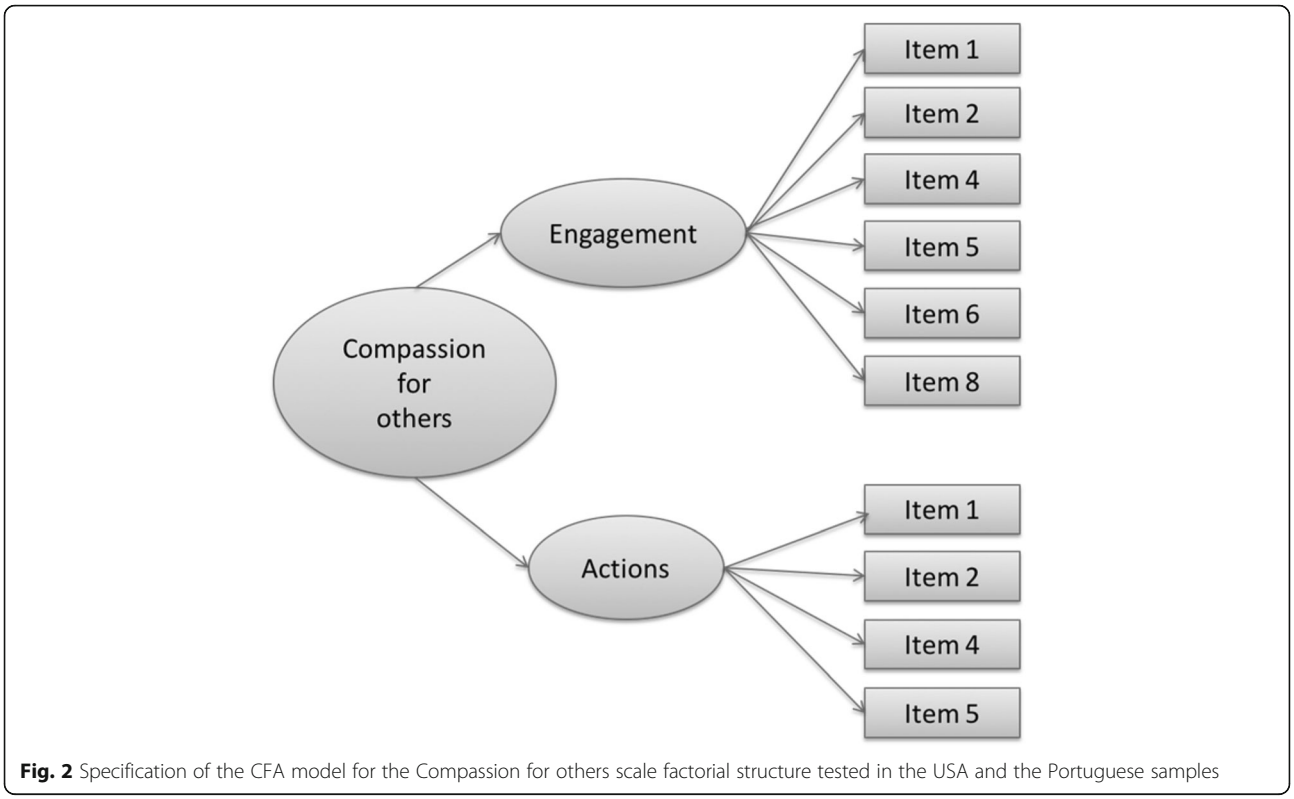

Fig. 2 Specification of the CFA model for the Compassion for others scale factorial structure tested in the USA and the Portuguese samples

Compassion for others—actions

An EFA on the four items which compose the compassion to others—actions scale produced one factor with eigenvalue above one, explaining 84% of the variance. The Cronbach's alpha for this scale was α = .94. No item deletion would improve the Cronbach's alpha.

Compassion from others—Engagement

The EFA on the six items which compose the compassion from others—Engagement scale produced one factor with eigenvalue above one, explaining 64.43% of the variance. The Cronbach's alpha for this scale was α = .89. No item deletion would improve the Cronbach's alpha.

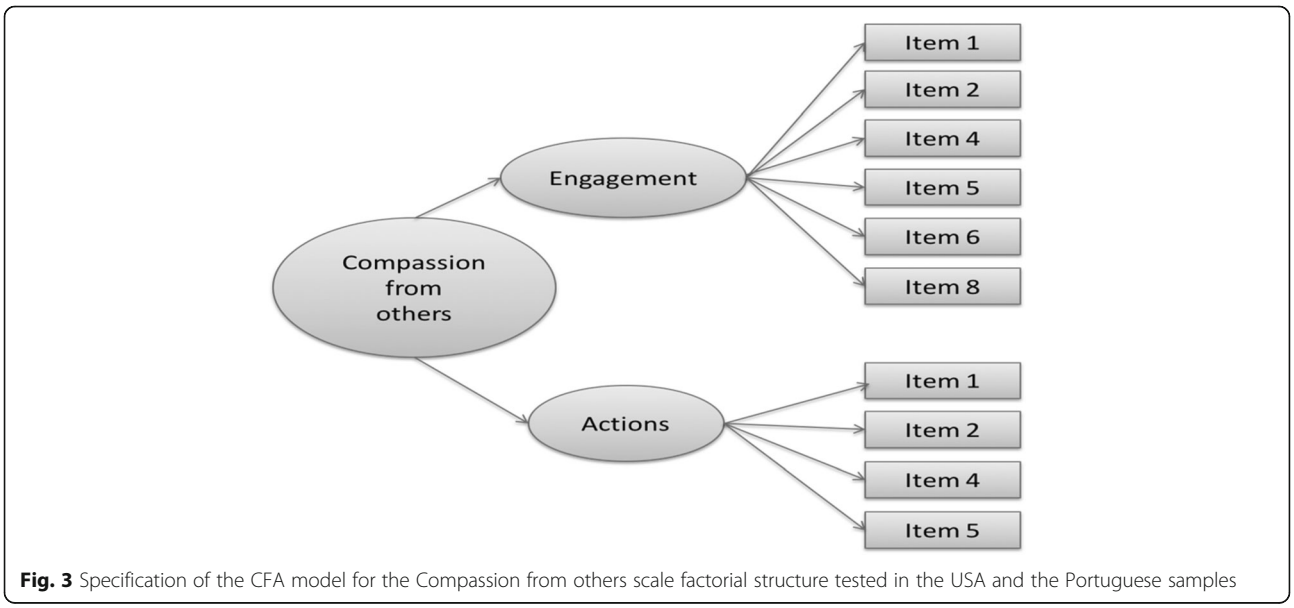

Fig. 3 Specification of the CFA model for the Compassion from others scale factorial structure tested in the USA and the Portuguese samples

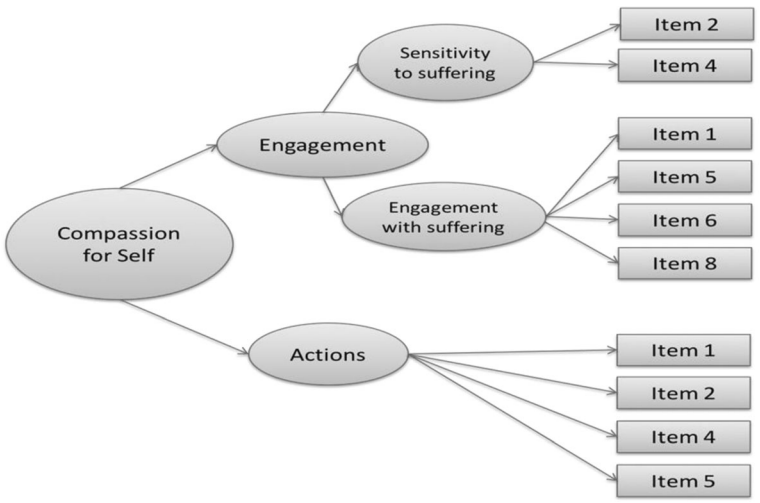

Fig. 4 Specification of the CFA model for the Self Compassion scale factorial structure tested in the USA and the Portuguese samples

Compassion from others—actions

The EFA on the four items which compose the compassion from others—actions scale produced one factor with eigenvalue above one, explaining 78.72% of the variance. The Cronbach's alpha for this scale was α = .91. No item deletion would improve the Cronbach's alpha.

Table 1 Factor loadings for the compassion to others scales

	UK sample
Compassion to Others – Engagement – Scale items	Factor 1
2. I notice and am sensitive to distress in others when it arises.	.88
1. I am motivated to engage and work with other peoples' distress when it arises.	.85
6. I reflect on and make sense of other people's distress.	.79
4. I am emotionally moved by expressions of distress in others.	.77
8. I am accepting, non-critical and non-judgemental of others people's distress.	.72
5. I tolerate the various feelings that are part of other people's distress.	.65
Variance	67.03
Cronbach's alpha	.90
Compassion to Others – Actions – Scale items	Factor 1
2.2. I think about and come up with helpful ways for them to cope with their distress.	.94
2.1. I direct attention to what is likely to be helpful to others.	.89
2.4. I take the actions and do the things that will be helpful to others.	.86
2.5. I express feelings of support, helpfulness and encouragement to others.	.86
Variance	84.00
Cronbach's alpha	.94

Compassion for self—Engagement

The EFA conducted on the six items of the self-compassion Engagement scale produced two factors with an eigenvalue above one, explaining 65.53% of the variance. Analysing the pattern matrices, we observed that the first factor comprises two items reflecting *emotional sensitivity to suffering and being moved by one's suffering* (sympathy). The second factor comprised the other four items representing of engagement with suffering (motivation to engage, tolerating distress, empathy, and being non-judgemental).

The Cronbach's alpha for the 2 item emotional sensitivity scale was α = .77 and α = .72 for the 4 item engagement with suffering scale. No item deletions would improve the Cronbach's alphas. The subscales had a correlation of .47.

Compassion for self—actions

The EFA on the four items which compose the self-compassion actions scale on both samples produced one factor with eigenvalue above one, explaining 77.23% of the variance. The Cronbach's alpha for this scale was α = .90. No item deletion would improve the Cronbach's alpha.

Analysis 2. Confirmatory Factor Analysis (CFA)

CFA in the US sample

Compassion for others The CFA revealed a good model fit (χ^2/df = 3.89; CFI = .96; TLI = .95; RMSEA = .096; SRMR = .036). The two first-order factors—Engagement and Actions—significantly loaded on the second order factor Compassion for Self (1.72 and .49, respectively). The values reported are the standardized loadings.

Table 2 Factor loadings for the compassion from others scales

	UK sample
Compassion from others – Engagement – Scale items	Factor 1
6. Others reflect on and make sense of my feelings of distress.	.85
2. Others notice and are sensitive to my distressed feelings when they arise in me.	.76
4. Others are emotionally moved by my distressed feelings.	.74
5. Others tolerate my various feelings that are part of my distress.	.73
1. Other people are actively motivated to engage and work with my distress when it arises.	.73
8. Others are accepting, non-critical and non-judgemental of my feelings of distress.	.72
Variance	64.43
Cronbach's alpha	.89
Compassion from others – Actions – Scale items	
2.2. Others think about and come up with helpful ways for me to cope with my distress.	.91
2.1. Others direct their attention to what is likely to be helpful to me.	.84
2.4. Others take the actions and do the things that will be helpful to me.	.83
2.5. Others treat me with feelings of support, helpfulness and encouragement.	.80
Variance	78.72
Cronbach's alpha	.91

Regarding local fit, all items revealed Standardized Regression Weights (SRW) ranging from .75 (item 8) to .74 (item 2) in the Engagement subscale, and from .65 (item 4) to .81 (item 1) in the Actions subscale. Squared Multiple Correlations' (SMC) results confirmed the items' reliability: in the Engagement subscale values ranged from .54 (item 8) to .86 (item 2); and in the Actions subscale from .81 (item 4) to .90 (item 1).

Compassion from others The CFA revealed a good model fit (χ^2/df = 3.92; CFI = .96; TLI = .95; RMSEA = .098; SRMR = .033). The two first-order factors—Engagement and Actions—significantly loaded on the second order factor Compassion for Self (1.72 and .49, respectively).

Items revealed high SRW that ranged from .70 (item 5) to .87 (item 2) in the Engagement subscale, and from .86 (item 1) to .89 (item 2) in the Actions subscale. Items' reliability was also confirmed with the SMC results ranging from .49 (item 5) to .76 (item 2) in the Engagement subscale; and from .73 (item 1) to .80 (item 2) in the Actions subscale

Compassion for self Results indicated an acceptable model fit (χ^2/df = 3.66; CFI = .94; TLI = .91; RMSEA = .092; SRMR = .049). Results indicated that in the Engagement subscale, the two first-order factors—emotional sensitivity to suffering and engagement with suffering—significantly loaded on the Engagement factor (1.17. and .60, respectively). Furthermore, the Engagement and Actions factors significantly loaded on their higher order factor Compassion for Self (1.21 and .57,

Table 3 Factor loadings for the self compassion scales

	UK sample			
	Pattern matrix		Structure Matrix	
Self-compassion – Engagement– Scale items	**1**	**2**	**1**	**2**
2. I notice, and am sensitive to my distressed feelings when they arise in me.	**.98**	.04	**1.00**	.50
4. I am emotionally moved by my distressed feelings or situations.	**.63**	-.01	**.62**	.28
5. I tolerate the various feelings that are part of my distress.	-.02	**.67**	.46	**.67**
6. I reflect on and make sense of my feelings of distress.	.17	**.63**	.30	**.71**
8. I am accepting, non-critical and non-judgemental of my feelings of distress.	-.10	**.62**	.19	**.57**
1. I am motivated to engage and work with my distress when it arises.	.26	**.43**	.47	**.55**
Variance (%)	46.48	19.1	Total = 65.53	
Cronbach's alpha	.77	.72		
Self-compassion – Actions – Scale items	**Factor 1**			
2.2. I think about and come up with helpful ways to cope with my distress.	.91			
2.4. I take the actions and do the things that will be helpful to me.	.85			
2.1. I direct my attention to what is likely to be helpful to me.	.84			
2.5. I create inner feelings of support, helpfulness and encouragement.	.73			
Variance (%)	77.23			
Cronbach's alpha	.90			

respectively). This indicates that the scale can be used as a two-factor scale or one factor scale.

Regarding local fit, items revealed SRW of .68 (item 2) and .89 (item 4) in the items referring to engagement with suffering, and ranging from .59 (item 8) and .78 (item 6) in the items regarding emotional sensitivity to suffering, and from .74 (item 5) to .81 (item 1) in the Engagement subscale. SMC results showed that in the subscale active engagement with suffering values were .79 (item 2) and .43 (item 4); in the emotional sensitivity to suffering subscale values ranged from .34 (item 8) to .65 (item 1); and in the Actions subscale from .54 (item 5) to .74 (item 2).

CFA in the Portuguese sample

Compassion for others The CFA revealed a good model fit (χ^2/df = 6.76; CFI = .95; TLI = .94; RMSEA = .087; SRMR = .038). The two first-order factors—Engagement and Actions—significantly loaded on the second order factor Compassion for Self (1.11 and .75, respectively). Items revealed high SRW that ranged from .43 (item 8) to .76 (item 2) in the Engagement subscale, and from .80 (item 4) to .88 (item 1) in the Actions subscale. SMC results ranged from .19 (item 8) to .60 (item 2) in the Engagement subscale; and from .65 (item 4) to .77 (item 1) in the Actions subscale.

Compassion from others The CFA revealed a very good model fit (χ^2/df = 5.09; CFI = .98; TLI = .97; RMSEA = .073; SRMR = .026). The two first-order factors—Engagement and Actions—significantly loaded on the second order factor Compassion for Self (1.49 and .61, respectively). Items revealed high SRW that ranged from .61 (item 8) to .83 (item 6) in the Engagement subscale, and from .87 (item 3) to .91 (item 1) in the Actions subscale. SMC results ranged from .38 (item 8) to .68 (item 6) in the Engagement subscale; and from .76 (item 3) to .88 (item 2) in the Actions subscale.

Compassion for self Results indicated an acceptable model fit (χ^2/df = 6.28; CFI = .95; TLI = .93; RMSEA = .083; SRMR = .050). Results indicated that in the Engagement subscale, the two first-order factors—emotional sensitivity to suffering and being moved by one's suffering—significantly loaded on the Engagement factor (1.21. and .31, respectively). Furthermore, the Engagement and Actions factors significantly loaded on their higher order factor Compassion for Self (1.05 and .64, respectively).

Regarding local adjustment, items revealed SRW of .98 (item 2) and .47 (item 4) in the subscale active engagement with suffering, and ranging from .47 (item 8) and .71 (item 6) in the subscale emotional sensitivity to suffering, and from .80 (item 3) to .86 (item2) in the Actions subscale. SMC results showed that in the subscale active engagement with suffering values were .96 (item 2) and .22 (item 2); in the emotional sensitivity to suffering subscale values ranged from .22 (item 8) to .51 (item 6); and in the Actions subscale from .63 (item 3) to .73 (item 4).

Model invariance

Results supported of a multigroup analysis between the three samples supported the model invariance for the Compassion for self scale since no differences were found in regard to factor weights (ΔCFI = -.001) and items' means (ΔCFI = -.004). Also, no differences were found in the Compassion to others scale regarding factor weights (ΔCFI = -.002) and items' means (ΔCFI = -.009). Finally, data supported model invariance for the scale Compassion from others, supported by the estimates for factor weights (ΔCFI = -.001) and items' means (ΔCFI = -.022).

Test-retest reliability

The test-retest reliability of the scales was examined in a subsample of the Portuguese population (N = 36). Intraclass correlation coefficients were used to estimate the stability of the scales' scores over a 1-month period. The relationship between the first and second administration was .72 for the scale Compassion To Others, .59 for Compassion From Others, and .75 for Compassion For Self.

Analysis 3: Gender differences

Independent samples T-tests (see Table 4) revealed no significant differences between men and women in the Compassion For Self scale (p > .050), in the UK, the USA and in the Portugal samples. No significant differences were found for the Compassion From Others scale (p > .050), in the USA and in the Portugal samples. There were significant gender differences for the Compassion to Others scale, with women presenting higher scores in comparison to men in the UK, the USA and in the Portugal samples.

Analysis 4: Correlations between the Compassion Scales

To explore how the three orientations of compassion (compassion for others, from others and self-compassion) are related we conducted a Pearson product-moment correlation analysis on the combined sample of 1352. This is given in Table 5.

All correlations between these subscales were significant and positive. For each specific focus (for self, to others, from others) the correlations between the engagement and action components are high (r = .67 to .83). However, the correlations *between* different foci for compassion are actually quite moderate with the highest being for self-compassion engagement with compassion for others engagement at .44.

This data suggests that while there are associations between different orientations for compassion they are only

Table 4 Gender differences

Scale	Country	Male		Female		t	*p- value*
		M	*SD*	M	*SD*		
Comp for others	UK	60.93	19.75	72.51	15.67	4.467	< .001
	USA	60.93	19.20	70.34	16.95	4.286	< .001
	Portugal	71.37	13.40	75.34	12.41	3.528	< .001
Comp from others	UK	53.90	16.90	55.70	15.47	*n.s*	
	USA	53.63	19.18	54.91	17.82	*n.s*	
	Portugal	63.18	15.55	62.80	15.07	*n.s*	
Compassion For Self scale	UK	58.18	16.15	58.19	15.05	*n.s*	
	USA	58.07	15.01	59.13	15.42	*n.s*	
	Portugal	64.59	12.75	64.62	12.63	*n.s*	

CEAS Compassionate Engagement and Action Scales: Compassion for Others; Compassion from; Compassion For Self scale; *n.s* = $p > .05$

moderately associated. It also supports the idea that some people can be high in one form of compassion (e.g., for others) but low in another (e.g., for self) and vice-versa.

Analysis 5. Convergent Validity and the relationships between compassion focused, self-evaluative, and emotion-focused variables

The purpose of this analysis was to assess the convergent validity of the new compassion scales by comparing them with other validated measures of compassion. Second, was to explore how the new compassion scales relate to self-evaluation and well-being variables.

For this analysis we combined all samples. In addition to the Compassion Engagement and Actions Scales described in Study 1, participants completed the self-report measures described above.

Means, standard deviations of all variables in each individual sample (American, British and Portuguese) and in the combined sample ($N = 1352$) and Cronbach's alpha of all variables in the combined sample are presented in Table 6. Comparison of the variables between groups was examined through ANOVA procedures and post-hoc comparisons for quantitative variables (Bonferroni), adjusting for age differences. Effect sizes are reported using partial eta squares (η_p^2), with $\eta_p^2 = .01$ indicating a small effect size, .06 to a medium effect size and .14 to a large effect size [112].

Table 5 Correlations of new compassion scales

CAAS	1	2	3	4	5	6
1. SC Sensitivity (two items						
2. SC Engagement (four items)	.36**					
3. SC Actions	.20**	***.67***				
4. CTO Engagement	.41**	.44**	.35**			
5. CTO Actions	.36**	.36**	.34**	***.77***		
6. CFO engagement	.23**	.33**	.35**	.36**	.36**	
7. CFO Actions	.22**	.30**	.36**	.34**	.42**	***.83***

CEAS Compassionate Engagement and Actions Scales; *SC sensitivity* self-compassion sensitivity; *SC Engagement* Self-Compassion Engagement; *SC Actions* Self-Compassion Actions; *CTO* Compassion to Others; *CFO* Compassion from others

** Correlation is significant at the .01 level; * Correlation is significant at the .05 level

Correlations between the compassion scales In Table 7 we outline the correlations between the different compassion measures, and use the single factor items of our new scales.

As expected from the results in Table 5, the three new compassion scales have only moderate correlations with each other. In regard to compassion for others, our new scale correlates strongly with compassionate love, and compassionate goals. In regard to being open to the compassion from others, this has weak correlations with the ability to be self-reassuring, the positive items of the SCS, compassionate love, and compassionate goals. Also of interest was that compassionate love has a moderate correlation with compassionate goals. The new self-compassion scale had relatively strong correlations with self-reassurance and the positive factor of the SCS, and weaker correlations with state self-compassion, compassionate love and compassionate goals. Taken as a whole the data suggest that the new scales have reasonable construct validity with other established scales.

Relationships between the compassion scales, negative self-processes, mood, and well-being Table 8 explores the correlations between the different compassion scales and the negative self-evaluation measures, depression, anxiety, and stress, and well-being. Taken together, we can see that compassion for others relates weakly to these variables but has a stronger correlation with well-being. Being open to compassion from others is weakly and negatively associated with self-criticism, depression and stress. However, it is strongly and positively correlated with well-being. In regard to self-compassion, again this has slightly higher, but nevertheless still relatively

Table 6 Means and standard deviation of all study variables

Scale	*M* (*SD*) US *N* = 312	*M* (*SD*) UK *N* = 278	*M* (*SD*) PT student *N* = 418	*M* (*SD*) PT general *N* = 344	*M* (*SD*) Total *N* = 1352	α	*F*; *df*	significance	η_p^2	Post-Hoc
Age	20.78 (5.25)	26.28 (9.81)	20.97 (2.92)	36.36 (11.72)	25.94 (10.28)		61.59; 2	< .001	.08	UK;PT > US
CAAS										
Comp for others Engagement	39.48 (11.20)	39.76 (11.10)	42.97 (7.50)	43.48 (8.65)	41.59 (9.73)	.88	16.77; 2	<.001	.03	US;UK < PT
Comp for others Actions	28.25 (7.95)	28.47 (7.40)	30.91 (5.21)	31.67 (6.11)	29.97 (6.79)	.92	23.62; 2	<.001	.04	US;UK < PT
Comp from others Engagement	31.77 (11.12)	31.90 (9.78)	37.13 (8.60)	36.11 (9.95)	34.51 (10.13)	.90	34.97; 2	<.001	.06	US;UK < PT
Comp from others Actions	22.80 (7.98)	23.07 (6.97)	26.97 (6.15)	26.21 (7.61)	24.98 (7.40)	.94	38.37; 2	<.001	.06	US;UK < PT
Self comp Sensitivity	11.96 (4.08)	12.12 (4.09)	12.40 (3.33)	12.08 (3.61)	12.15 (3.75)	.67	0.90; 2	.405	.00	US;UK;PT
Self comp Engagement	22.61 (6.75)	21.93 (6.43)	24.75 (5.43)	24.80 (6.64)	23.67 (6.41)	.74	19.69; 2	<.001	.03	US;UK < PT
Self comp Actions	24.28 (7.52)	24.01 (8.18)	27.32 (6.19)	28.25 (7.05)	26.15 (7.40)	.89	29.82; 2	<.001	.05	US;UK < PT
DASS										
Depression	5.03 (4.22)	3.81 (3.96)	3.07 (3.20)	3.67 (4.18)	3.86 (3.94)	.87	8.33; 2	<.001	.01	UK;PT < US
Anxiety	4.59 (4.06)	3.76 (3.53)	3.11 (3.56)	3.21 (3.82)	3.63 (3.79)	.80	6.50; 2	.002	.01	UK;PT < US
Stress	7.06 (4.12)	6.46 (4.47)	6.10 (4.16)	5.95 (4.21)	6.37 (4.24)	.85	1.271; 2	.281	.00	US;UK;PT
FSCSRS										
Inadequate	15.68 (8.19)	16.13 (8.34)	13.54 (7.16)	12.34 (7.55)	14.29 (7.91)	.88	11.25; 2	<.001	.02	US;UK > PT
Reassured	18.51 (6.89)	19.80 (5.98)	20.21 (5.54)	20.12 (6.51)	19.69 (6.26)	.87	3.80; 2	.023	.01	UK;PT > US
Hated	3.86 (4.25)	2.95 (3.58)	2.07 (2.77)	2.68 (3.53)	2.85 (3.60)	.51	10.95; 2	<.001	.02	UK;PT > US
SCS Positive	36.95 (9.79)	37.49 (9.71)	40.75 (7.88)	42.20 (35.88)	39.48 (9.11)	.90	0.11; 2	.897	.00	UK;US < PT
SCS Negative	37.59 (11.56)	36.49 (11.90)	37.41 (8.95)	35.88 (9.33)	36.88 (10.35)	.91	25.66; 2	<.001	.04	US;UK;PT
Comp Love Scale	99.75 (26.31)	93.10 (25.42)	—	—	96.74 (26.10)	.96	10.48; 2	.001	.02	US > UK
Submissive Compassion	20.63 (8.46)	20.38 (9.51)	13.26 (7.89)	11.36 (8.30)	16.04 (9.42)	.92	118.79; 2	<.001	.15	US;UK > PT
FCSIGS										
Compassionate Goals	25.13 (4.74)	25.05 (4.55)	25.85 (4.14)	25.72 (4.84)	25.48 (4.57)	.91	3.10; 2	.046	.01	US;UK;PT
Self-Image Goals	17.80 (4.67)	17.25 (4.83)	17.96 (4.22)	17.65 (4.88)	17.70 (4.64)	.89	3.31; 2	.037	.01	US;PT > UK
SSCSCS										
State Compassion	35.97 (18.48)	41.30 (19.74)	40.57 (14.75)	48.83 (17.78)	40.35 (18.36)	.94	5.87; 2	.003	.01	PT > US
State Criticism	60.03 (16.11)	58.61 (17.57)	56.52 (14.03)	55.17 (15.54)	58.10 (16.05)	.87	2.91; 2	.055	.01	US; UK;PT
Well-being	46.60 (10.16)	47.17 (9.21)	—	—	46.86 (9.74)	.92	.002; 2	.961	.00	US;UK
Social comparison	57.33 (15.02)	54.69 (13.40)	59.72 (12.20)	62.28 (15.36)	58.79 (14.26)	.90	15.14; 2	<.001	.02	US;PT > UK

CAAS Compassionate Engagement and Action Scales; *CTO* Compassion to Others; *CFO* CAAS Compassionate Engagement and Action Scales; *Comp for others* Compassion for Others; *Comp from others* Compassion from Others; *SC Sensitivity* Self-Compassion Sensitivity to Suffering; *SC Engagement* Self-Compassion Engagement with Suffering; *SC Actions* Self-Compassion Actions; *DASS* Depression, Anxiety and Stress Scale; *FSCSRS* Forms of Self Criticising and Self Reassuring Scale; *SCS* Self-Compassion Scale; *CLS* Compassionate Love Scale; *Submissive Compassion* Submissive Compassion Scale; *FCSIGS* Friendship Compassionate and Self-Image Goals; *SSCSCS* State Self-Criticism & Self-Compassion Scale; *Well-being* Warwick and Edinburgh Well Being Scale; *Social Comparison* Social Comparison Rating Scale

moderate, correlations with negative self-evaluation and self-criticism, depression, anxiety and stress; but the strongest correlation is with well-being.

Interestingly, self-reassurance, which is different to self-compassion (partly because it is not focused on how we deal with suffering but on how we remember the positive qualities of ourselves when things go wrong) is more strongly and negatively correlated with negative self-evaluation and also depression, anxiety and stress, and again has the strongest correlation with well-being.

Given that the two items on the self-compassion scale, 'sensitivity and being moved by suffering' emerged as a potential independent factor, we explored how these two items are associated with the other study variables, controlling for the other engagement sub-scales items. This is shown in Table 9.

Table 7 Inter-correlations of compassion scales

	Comp for others	Comp from others	Self comp	Self reassure	SCS Positive	State self comp	Comp love
Comp for others							
Comp from others	.40***						
Self compassion	.49***	41***					
Self-reassure	.19***	.30***	.49***				
SCS positive	.25***	.34***	.60***	.61***			
State Self comp	.15***	.20***	.24***	.22***	.34***		
Comp Love	.70***	.27***	.33***	.09*	.22***	.10*	
Comp Goals	.47***	.20***	.24***	.13***	.16***	.07*	.46***

Variable Key
Positive self processes; SCS Positive = Self-compassion scale Positive factors; Self-Reassure = self reassurance from the FSCSRS; State Self-Comp = state self-compassion
Compassion for others: Comp Love = compassionate Love Scale; Comp Goals = Compassionate Goals from the Friendship Compassionate and Self-Image Goals scales
*** Correlation is significant at the .001 level; ** Correlation is significant at the .01 level; * Correlation is significant at the .05 level

Sensitivity and being emotionally moved by distress, without the other aspects of compassion, are *positively* associated with a range of mood and negative self-evaluative variables.

Analysis 6. Multiple regression with self-compassion and reassurance scales predicting well-being and depressive symptoms

Two multiple regression analyses were conducted using compassion for self, compassion for others and compassion from others, self-reassurance (FSCSRS) and self-compassion (SCS), to predict well-being and depressive symptoms.

For well-being, the model accounted for 43% of the variance ($F = 83.01$, $p < .001$). Self-reassurance and compassion for self emerged as most powerful predictors (β = .42 and β = .21, respectively; $p < .001$), followed by compassion from others (β = .12; $p = .001$). Compassion for others (β = .01), and self-compassion as measured by the SCS (β = .05), were not significant predictors of well-being.

Regarding depressive symptoms, the model accounted for 20% of the variance ($F = 26.96$, $p < .001$), with reassured self emerging as the only significant predictor (β = -.46; $p < .001$).

Analysis 7. Path model of the mediator effect of compassion for self on the relationship between self-reassurance, self-criticism, depressive symptoms and well-being

Given the interesting indication that the compassion variables, in contrast to self-critical variables, may be linked with depression and well-being in different ways

Table 8 Inter correlations of compassion scales

	Negative Self-Processing						Mood and well-being			
	SCS Neg	Self critic (Inadequate)	Self critic (Hate)	State Self critic	Self-image goals	Sub comp	Dep	Anx	Stress	Well being
Comp for others	-.12***	.03	-.08**	.09**	.05	.01	-.05	-.04	.03	.23*
Comp from others	-.10***	-.15***	-.20***	-.02	.00	-.04	-.18***	-.09**	-.10***	.35***
Self comp	-.23***	-.27***	-.29***	-.08*	-.03	-.08*	-.25***	-.14***	-.16***	.48***
Self-reassure	-.49***	-.45***	-.51***	-.13***	-.11***	-.09***	-.45***	-.28***	-.31***	.59***
SCS positive	-.41***	-.42***	-.35***	-.17***	-.10***	-.16***	-.32***	-.20***	-.26***	.48***
State Self comp	-.16***	-.17***	-.10***	-.06	-.07*	-.13***	-.13***	-.09*	-.13***	.23***
Comp Love	.23***	.17***	.08	.12*	.07	.22***	.04	.11*	-.03	.16***
Comp Goals	16***	13***	00	11**	40***	10***	-.03	.02	05	.17***

Variable Key
Positive self processes: Self-Reassure = self reassurance from the FSCSRS; SCS Positive = SCS positive factors; State Self-Comp = state self-compassion
Compassion for others: Comp Love = compassionate Love Scale; Comp Goals = Compassionate Goals from the Friendship Compassionate and Self-Image Goals scales
Negative self processes: SCS neg = self-compassion scale; (Neff) negative factors; Self-critic Inadequate = FSCSRS inadequate self; Self-critic hated self; State critic = State self-criticism; Self-image goals = self-image goals from the Friendship Compassionate and Self-Image Goals scales Sub Comp = submissive compassion; Sub Comp = submissive compassion
Mood and well-being; Dep = depression form the DASS; Anxiety- Anxiety from the DASS; Stress = Stress from the DASS; Well being = Warwick and Edinburgh Well Being Scale; SCRS = Social Comparison Rating Scale
*** Correlation is significant at the .001 level; ** Correlation is significant at the .01 level; * Correlation is significant at the .05 level

Table 9 Partial correlations between Self-compassion emotional sensitivity to suffering and variables in study controlling for Self-compassion engagement with suffering

	DASS Dep	DASS Anx	DASS Stress	FSCSRS IS	FSCSRS RS	FSCSRS HS	SCS Positive	SCS Negative	CLS	Sub.CS	FCSIGS CG	FCSIGS SIG	SSCSCS St.Comp	SSCSCS St.Crit	WEWBS	SCRS
SC Sensitiv	.23**	.19**	.38**	.41**	-.14**	.17**	-.12***	.41***	.29**	.31**	.27**	.23**	-.09	.11*	-.12**	-.14**

SC Sensitiv = Self-Compassion Sensitivity to Suffering; SC Engagem = Self-Compassion Engagement with Suffering DASS = Depression, Anxiety and Stress Scale (Dep = Depression; Anx = Anxiety); FSCSRS = Forms of Self-Criticising and
Self-Reassuring Scale (IS = Inadequate Self; RS = Reassured Self; HS = Hated Self); SCS = Self-Compassion Scale; CLS = Compassionate Love Scale; Sub.CS = Submissive
Compassion Scale; FCSIGS = Friendship Compassionate and Self-Image Goals (CG = Compassionate Goals; SIG = Self-image Goals); SSCSCS = State Self-Criticism & Self-Compassion Scale (St.Comp = State Self-compassion; SrCrit = State Self-criticism); WEWBS = Warwick and Edinburgh Well Being Scale; SCRS = Social Comparison Rating Scale
*** Correlation is significant at the .001 level ** Correlation is significant at the 0.01 level; * Correlation is significant at the 0.05 level

(as indicated in the literature reviewed above), a path analysis was conducted to estimate whether the association between self-reassurance and self-criticism and both depressive symptoms and well-being would be mediated by compassion for self (Fig. 5).

Preliminary analyses confirmed the multivariate normality assumption, with the data showing Skewness values ranging from -.05 to 1.04, and Kurtosis values ranging from -.27 to .51. The initial model comprised 23 parameters. Initially, the path regarding the direct effect of self-compassion and depressive symptoms failed to meet the critical value for two-tailed statistical significance at the .05 level ($b_{\text{self-compassion}}$ = -.01; Z = -0.56; p = .573; β = -.02). The path between self-criticism and self-compassion was also nonsignificant ($b_{\text{self-criticism}}$ = .08; Z = 0.69; p = .489; β = .03). These paths were deleted and the model recalculated. The parsimonious model accounted for 40% of depressive symptoms variance and 43% of well-being variance, and revealed an excellent model fit: $\chi^2_{(2)} = 0.80$, p = .671; CFI = 1.00; TLI = 1.01; RMSEA = .00.

Self-criticism presented a direct effect of -.23 ($b_{\text{self-criticism}}$ = -.39; Z = -6.08; $p < .001$) on well-being; and a direct effect of .56 ($b_{\text{self-criticism}}$ = .41; Z = 14.41; $p < .001$) on depressive symptoms.

Self-reassurance presented a direct negative effect of -.12 ($b_{\text{self-reassurance}}$ = -.07; SEb = .03; Z = -3.00; $p < .001$) on depressive symptoms, and a significant direct effect on self-compassion of .50 ($b_{\text{self-reassurance}}$ = 1.17; Z = 13.68; $p < .001$). Self-compassion presented a direct effect of .25 ($b_{\text{self-compassion}}$ = .16; Z = 7.38; $p < .001$) on well-being. Furthermore, self-reassurance presented a total effect of .46 on well-being, with a direct effect of .34 ($b_{\text{self-reassurance}}$ = .50; Z = 8.11; $p < .001$), and an indirect effect of .13, being significantly mediated by self-compassion (95% CI = .09 to .17, p < .001), according to the Bootstrap resampling method, thus providing incremental evidence of the new scale.

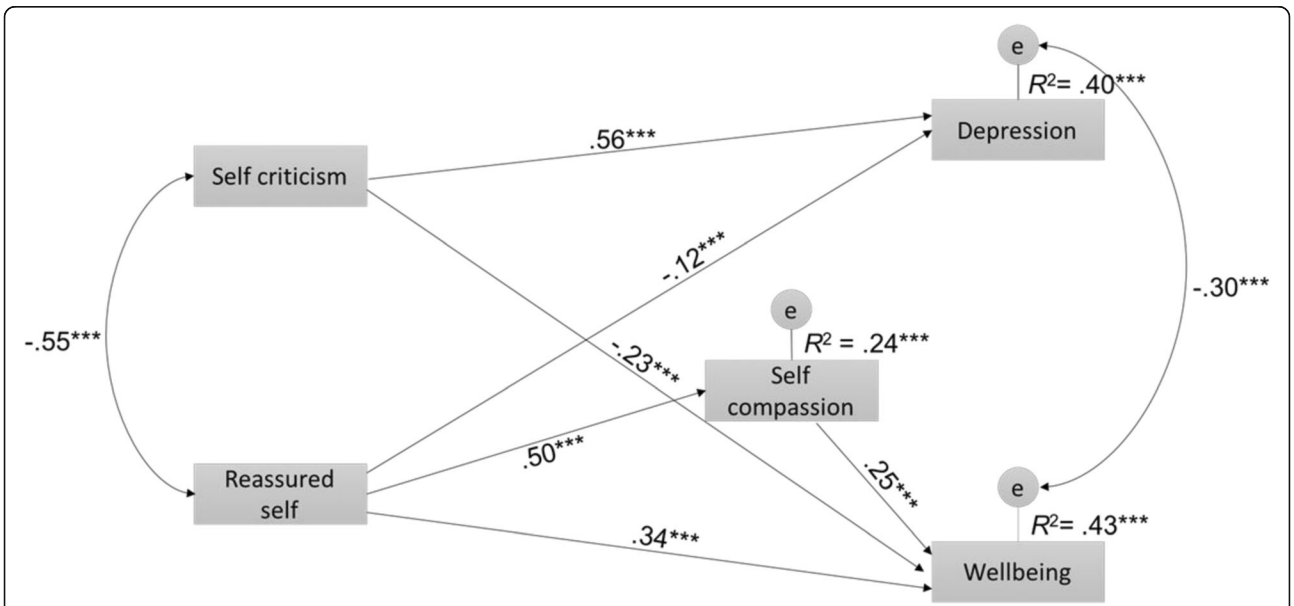

Fig. 5 Path model testing the mediator effect of Self Compassion on the association between Reassured self and Self-criticism (exogenous variable) and Depression and Well-being (endogenous variables), with standardized estimates and squared multiple correlations

To sum up, results revealed that self-criticism has a direct impact on depression and well-being, whereas the impact of self-reassurance on well-being is partially mediated by self-compassion. This suggests that being self-reassuring maybe helpful but also having the competencies of self-compassion associated with capacities like empathy and distress tolerance may add to its efficacy.

Discussion

This study generated three new self-report measures of compassion derived from an evolution informed motivational competencies approach. The measures assess: 1. six competencies that facilitate turning towards and engaging in suffering ; and 2. four competencies that facilitate actions to alleviate and prevent suffering. We developed scales for the three different orientations of compassion: compassion for others, from others and for self. The factor structures were analysed in two different languages in three different samples. The structure was first tested through an EFA in the British sample and then corroborated through CFA in the USA and Portuguese sample. The findings revealed the scales to be valid and reliable measures, with good temporal stability. They can be used as single factor scales or, for more detailed explorations, as separate sub-scales (engagement and actions) for each orientation.

The relationship between the orientations of compassion

In regards to the relationship between the different orientations of compassion we found that for the most part, the relationship between the engagement aspects and the action aspects are highly correlated for *each orientation* but only moderately correlated *across* orientations. For example, rather surprisingly perhaps, self-compassion *engagement* is only weakly associated with experiencing compassion from others. As noted earlier Hermanto, & Zuroff, [58] found that the combination of low care-seeking and high care-giving was related to the relatively poor self-compassion/reassurance supporting.

Compassion for others

Compassion for others is strongly associated with compassionate love ($r = .70$) and compassionate goals ($r = .47$). Interestingly, compassion for others, compassionate goals and compassionate love all have low or non-significant correlations with depression, anxiety and stress, and only a weak correlation with well-being (Table 8). Since all three scales share the same type of relation with these mood variables, it is likely that they are tapping the same dimension. This is interesting since there is evidence that helping others has positive psychological and physiological benefits [9]. It may be important to distinguish genuine 'suffering-focused compassion' from the helpfulness of kindness which need not focus on 'suffering' as such e.g., doing a favour for someone, buying them a present they always wanted and feeling joyful.

It may be that when we are emotionally connected to suffering, this has a different impact from just being able to behave in helpful ways to others. Being emotionally connected to suffering is not linearly related to helping behaviour, but probably follows an inverted u-shaped curve like the Yerkes-Dodson law relating arousal and performance. Hence skilful compassion is the ability to not be over aroused or overwhelmed [28]. It is also of interest that being compassionate to others was not more strongly correlated with well-being. Again, the same argument may pertain.

Compassion from others

Being able to turn to others and experience others as helpful is commonly regarded as a resource that buffers depression, anxiety and stress [7, 116]. We were slightly surprised therefore that the correlations here were quite weak, although stronger for well-being. Although, this is in line with other findings [58], this is especially interesting when one considers that fears of accepting compassion from others is strongly linked to depression [49–51]. As noted, in the introduction there are two elements to this focus. First, is an external one which relates to the *availability* of compassion from others and how one experiences one's social context. This is what our scale measures, although it does not specify who is the provider (e.g., family friends of strangers) but more a general sense of social environment and context.

However, there is another dimension linked to the capacity to elicit compassion and the ability to be responsive rather than defensive to, or push away offered help and compassion. These may be compromised if we have high levels of shame or distrust[1] [114]. This may also link with Bowlby's concept of compulsive self-reliance [6, 58]. Our scale has not tapped this dimension, but the fear of compassion scales do [51].

Self-compassion

The analysis of our new self-compassion scale revealed an important complexity relating to the issue of *being sensitive* to and *emotionally moved* by one's own suffering/distress, indicating a possible separate factor. We conducted a partial correlation analysis exploring these two items in relation to the other study variables controlling for the engagement items (Table 9). This revealed that when the other four engagement items of compassion (motivation, distressed tolerance, empathy and non-judgement) are held constant, being sensitive and moved by distress is significantly, *positively* correlated with pathology variables and self-criticism. The

strength of the correlation with self-criticism and also the negative factors on the SCS reveals 'sensitivity to suffering in oneself' to be a complex variable. Much appears to depend on how one responds to one's suffering. Although not measured here, if being sensitive to one's suffering and distress only leads to worry or rumination, this would be unhelpful. Indeed, Eisenberg et al. [28] and Neff [92, 93, 95] makes the same point. As a reviewer to this paper also observed one reason for this finding may be that people with more intense symptoms will be more aware of them and more aware of their distress. A similar issue has been described by mindfulness researchers [26]. *Observation* is a central facet of mindfulness but it is important to distinguish between *what* one observes and *how* one observes. Desrosiers et al. [26] found that when observation was associated with reactivity (rumination and worry) the observation facet of mindfulness was significantly linked to depression but not when it was associated with non-reactivity. Hence, just as observation is central to the measurement of mindfulness, so is the sensitivity to suffering central to the measurement of compassion. However, it is also important to note *how* one is sensitive to one's own suffering, not just *whether* one is sensitive to it [93]. Nonetheless, the CFA confirmed that the self-compassion engagement subscale can be used as a single factor measure. Again this mirrors the research in mindfulness [26].

This research also brings attention to the obvious point that self-compassion is currently being defined and measured in different ways. For example, our measure of self-compassion is different to Neff [92, 93, 95] in that it focuses on motivation, separates engagement from action and taps specific competencies such as paying attention, distressed tolerance, and empathy. Its correlation with Neff's positive dimensions of self-compassion (of mindfulness common humanity and non-judgement) is strong (r = .60). In contrast, the correlation with state self-compassion is lower (r = .24). Also of note is that Neff's [92, 93] positive components of compassion are strongly linked to self-reassurance and indeed more so than our own measure of self-compassion That is interesting because as Table 8 reveals self-reassurance is the most powerful correlate of depression (r = .45) and well-being (r = .59), and more so than any of the self-compassion measures. Hence, self-reassurance and self-compassion are clearly overlapping but also distinct processes. In addition, given the relatively low correlations of all three compassion measures with depression, anxiety and stress, it highlights again that the relationship between these variables are not straightforward [90].

Depression vs Well-being

We found that self-compassion, self-reassurance and the positive items of the Neff's scale are more strongly associated with well-being than psychopathology measures (Table 8) - a finding in line with other studies (e.g., [74]). This supports the growing awareness that positive ways of relating to oneself in contrast to threat or critical focused ways have very different impacts on well-being and mental health [47, 119], physiology [105] and neurophysiology [80]. To investigate this further, we ran a path analysis exploring the distinct pathways between self-criticism and self-reassurance, on depression and well-being, having self-compassion as a mediator. This also revealed that self-criticism has a strong direct effect on depression, whereas self-reassurance has a smaller negative direct effect on depression, but self-reassurance is the best predictor of well-being. In addition, self-compassion mediates the link between self-reassurance and well-being. This is in line with findings by Crocker and Canevello [18] on how compassionate goals and self-image goals attenuate each other. It also highlights again that positive and negative processing represent different processes [62, 80, 105, 117]. Hence, as noted in our introduction these paths and processes should be investigated separately [76].

Implications

Given that the neurophysiology of self-criticism and self-compassion are quite different and link to depression in very different ways [80, 105] it is likely that most compassion focused therapies, for which there a few now [69] work in both direct and indirect ways on mental health problems [67, 69, 77]. Indeed, rather than (only) working directly with shame or self-criticism to try to undermine it, CFT focuses on building compassion motivation, a compassionate sense of self and skills, which then impact on physiological systems (such as parasympathetic tone) that promote well-being and thus reduce both self-criticism and depression [40, 43, 68]. Indeed, there is good evidence that compassion training changes a range of physiological systems [68] including the immune and cardiovascular system, and areas in the frontal cortex due to neuroplasticity (see [108] for reviews).

Conclusion

This is the first study to measure three orientations of compassion based on a evolution informed motivational competencies approach. The measures have robust psychometric properties and can be used as single factor scales or as separate engagement and action factors for more detailed explorations. We are currently exploring how compassion training can influence these different compassion competencies. Hence, we hope we have highlighted how a competencies based approach, that is guide by basic motivation psychology, can advance our understanding of the multifaceted nature and effects of compassion.

Limitations

As with any self-report scale, the scale is only as good as how items are in tapping into the identified constructs and experiences. Hence, questions can be raised to whether the wording of the items captures the constructs that we say it does. For example, the wording of the sympathy item as 'emotionally moved by….' and wording for the empathy item was 'reflect on and making sense of….'. In the case of empathy therefore, it is capturing two constructs, the ability 'to reflect', and to 'make sense of' which perhaps captures the more cognitive dimension of the empathy rather empathic attunement. Hence, future work may want to explore these measures in relation to empathic engagement with suffering, and develop and refine questions

Furthermore, the findings of the path analysis are based on cross-sectional data and therefore conclusions cannot be drawn regarding causality between the study variables. The main aim of this analysis was to test the scales' validity in relation with other measures and further the links between of self-reassurance *vs.* self-criticism with well-being and depression measures. The use of cross-sectional data does not invalidate this specific approach (e.g., [56, 89]). Nonetheless, future longitudinal studies are required to confirm these results.

While we think these scales will be useful for clinical research, we have not used them with clinical population as of yet. This is planned and underway and with other researchers.

Endnotes

[1]We originally sought to explore people's openness and receptiveness to compassion but in reality our scale measures something slightly different which is the perceived availability of compassion that people experience. We are extremely grateful to Dr Ashleigh McLellan and Dr Philip Molyneux for bringing this to our attention. Hence individuals may have a poor experience of the compassionate from others because of external constraints (being isolated, other people are unable or don't want to provide compassion) or internal constraints which are closely linked to the fears of receiving compassion [51]. The fears of compassion scales may be used to investigate the latter.

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Availability of data and materials

The materials described in the manuscript are readily reproducible, including database and all relevant data. Databases as described in the manuscript are available upon request from the researchers in a way that preserves anonymity.

Authors' contributions

All authors have made substantial contributions to this study; PG was responsible for the study design. FC, CD, MM and RK collected the data. All authors took part in the interpretation of data and drafting of the manuscript. All authors critically revised, read and approved the final manuscript.

Competing interests

The authors declare that they have no competing interests.

Consent for publication

Written informed consent and consent for publication was provided by the participants of the study.

Ethics approval and consent to participate

Ethical approvals by the University of Derby (Ethics Ref No: 01-14-PG) and Eastern Washington University Research Ethical Committees and University of Coimbra Portuguese Foundation for Science and Technology Research Ethical Committee were obtained.

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